REMARKS

The Office Action dated March 17, 2009 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 14, 16, 25, and 27 have been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter is believed to have been added. Claims 1, 2, 5-11, 14-25, 27, and 28 are currently pending and are respectfully submitted for consideration.

Reconsideration and withdrawal of the rejections is respectfully requested in light of the following remarks.

Rejections under 35 U.S.C. § 112

Claims 1-28 were rejected under 35 U.S.C. §112, first paragraph, for allegedly failing to comply with the written description requirement. In particular, the Office Action took the position that the recitation "vary the **total** capacity" is not supported by the specification. However, this rejection is respectfully traversed for at least the following reasons.

According to MPEP § 2163(III), a description as filed is presumed to be adequate, unless or until sufficient evidence or reasoning to the contrary has been presented by the examiner to rebut the presumption. See, e.g., *In re Marzocchi*, 439 F.2d 220, 224, 169

USPQ 367, 370 (CCPA 1971). The examiner, therefore, must have a reasonable basis to challenge the adequacy of the written description. The Examiner has the initial burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in an applicant's disclosure a description of the invention defined by the claims. *Wertheim*, 541 F.2d at 263, 191 USPQ at 97. In rejecting a claim, the examiner must set forth express findings of fact regarding the above analysis which support the lack of written description conclusion. These findings should:

> (A) Identify the claim limitation at issue; and
>
> (B) Establish a *prima facie* case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed. A general allegation of "unpredictability in the art" is not a sufficient reason to support a rejection for lack of adequate written description.

In the instant case, the Office Action set forth a general allegation that the recitation "a total capacity" being a variable is not supported by the specification. This general allegation is not sufficient to establish a prima facie case why a person skilled in the art, at the time the application was filed, would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed. The Office Action must provide reasons why a person skilled in the art would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed. Because the Office Action failed to

satisfy the initial burden as required by the guidelines under MPEP § 2163(III)(A), the rejection is considered to be in clear error.

Furthermore, the specification fully supports the limitation at issue. To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had **possession** of the claimed invention. See, e.g., *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1319, 66 USPQ2d 1429, 1438 (Fed. Cir. 2003); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d at 1563, 19 USPQ2d at 1116. An applicant shows **possession** of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997).

In the instant case, the Applicant clearly had **possession** of the subject matter in question. For example, paragraphs [0031], [0033], [0034], [0036], [0063], and [0078] of the specification clearly supports the subject matter in question, i.e., "vary the total capacity". In particular, the specification describes that carriers can be added or removed from the cell, thereby varying the capacity of the cell. See Specification, paragraph [0031]. In order to accommodate more carriers in the network, the coverage of certain carriers may be limited. See Specification, paragraph [0033]. CCR parameters can be easily mapped to a table which can be utilized dynamically for the network. See

Specification, paragraph [0034]. The table lists the total capacity, i.e., the number of carriers in the cell for various arrangements. See Specification, paragraph [0036]. The number of carriers can be dynamically changed by the multicarrier system. See Specification, paragraph [0063].

In other words, the above-mentioned description in the specification provides sufficient support for the limitation "the defining unit is configured to vary the number of carriers in the capacity layer, to thereby dynamically vary a total capacity of the cell" of claim 1, for example. This limitation does not have to be explicitly supported by the specification, but instead the limitation must be either expressly, implicitly, or inherently disclosed by the specification. See MPEP § 2163(I)(B). In view of the above, it would be readily apparent to a person of ordinary skill in the art that the specification not only expressly supports the above-quoted limitation of claim 1, but also implicitly supports the above-quoted limitation of claim 1.

Because support is clearly provided by the specification for the above-quoted limitation, Applicant respectfully submits that claims 1-28 fully satisfy the requirement under the first paragraph of 35 U.S.C. § 112. Accordingly, withdrawal of the rejection is respectfully requested.

Rejections under 35 U.S.C. § 103

Claims 1, 2, 5-11, 14-21, 23-25, 27, and 28 were rejected under 35 U.S.C. §103(a) as being unpatentable over Schilling (U.S. Patent NO. 6,128,328) in view of Otsuka (U.S. Patent No. 6,741,859). Particularly, the Office Action asserted that the combination of Schilling and Otsuka disclosed all of the elements of claims 1, 2, 5-11, 14-21, 23-25, 27, and 28. However, this assertion by the Office Action is respectfully traversed as followed.

Claim 1, upon which claims 2, 5-9, and 23 are dependent, recites an apparatus. The apparatus includes a defining unit configured to define a capacity layer for a cell of a communications system. The cell includes a coverage layer having a fixed coverage area provided by at least one carrier. The capacity layer includes at least one carrier, each carrier in the capacity layer having a dynamically variable coverage area. The defining unit is configured to vary the number of carriers in the capacity layer, to thereby dynamically vary a total capacity of the cell.

Claim 10, upon which claims 11, 14-18, and 24 are dependent, recites a method. The method includes defining, by a station, a capacity layer for a cell of a communications system. The cell includes a coverage layer having a fixed coverage area provided by at least one carrier. The capacity layer comprising at least one carrier, each carrier in the capacity layer having a dynamically variable coverage area. The method includes varying, by the station, the number of carriers in the capacity layer, to thereby dynamically vary a total capacity of the cell.

Claim 19, upon which claims 20, 21, 23, and 24 are dependent, recites an apparatus. The apparatus includes at least one transmitter configured to transmit a first carrier at a predetermined power level thereby defining a fixed coverage area of a cell of a communications system. The at least one transmitter is further configured to transmit a variable number of further carriers thereby defining, at least in part, a dynamically variable total capacity of the cell. Each of the further carriers has a dynamically variable coverage area.

Claim 25 recites an apparatus. The apparatus includes a defining means for defining a capacity layer for a cell of a communications system. The cell includes a coverage layer having a fixed coverage area provided by at least one carrier. The capacity layer includes at least one carrier. Each carrier in the capacity layer having a dynamically variable coverage area. The apparatus includes a means for varying the number of carriers in the capacity layer, to thereby dynamically vary a total capacity of the cell.

Claim 27 recites an apparatus. The apparatus includes a first carrier transmitting means for transmitting a first carrier at a predetermined power level thereby defining a fixed coverage area of a cell of a communications system. The apparatus includes a variable number transmitting means for transmitting a variable number of further carriers thereby defining, at least in part, a dynamically variable total capacity of the cell. Each of the further carriers has a dynamically variable coverage area.

Claim 28 recites a cellular communication system including at least one cell. The cell includes a station configured to provide a coverage layer having a fixed coverage area. The station is also configured to provide a capacity layer comprising at least one carrier, said at least one carrier having a dynamically variable coverage area. The station is also configured to vary the number of carriers in the capacity layer to thereby dynamically vary the total capacity of the cell.

As will be discussed below, Applicant respectfully submits that the combination of Shilling and Otsuka fails to disclose, either expressly or implicitly, all of the elements of the claims, and therefore fails to provide the advantages and features discussed above.

Schilling discusses frequency hopping code division multiple access system and method. Specifically, Schilling discusses maximizing channel capacity, i.e., having the optimum number of users per cell, of a frequency hopping, code division multiple access cellular communication system. (Schilling, column 3, lines 10-14).

However, Schilling does not disclose "the defining unit is configured to vary the number of carriers in the capacity layer, to thereby dynamically vary a total capacity of the cell", as recited in claim 1. In fact, the Office Action conceded that Schilling fails to disclose the above-quoted feature of claim 1. In an attempt to cure the deficiencies of Schilling, the Office Action relied upon Otsuka et al. to disclose the above-quoted feature of claim 1. (Office Action, page 4).

This reliance upon Otsuka et al., however, is incorrect for at least the following reasons.

Otsuka et al. discusses a code division multiple access mobile communication system accommodating increased number of mobile stations. Specifically, Otsuka et al. refers to hand-off methods between base stations, i.e., inter-base station co-operation rather than intra-base station coverage. (Otsuka et al., column 2, line 5). According to Otsuka et al., a hard handoff requires a greater power than a soft handoff. (Otsuka et al., column 2, lines 34-36). Therefore, when the mobile station is around a border of cells, a soft hand-off is suitable, because the soft hand-off requires only a minimum transmission power for the mobile station to achieve communication with the closest base station.

In other words, Otsuka et al. is primarily focused upon the power of the mobile station rather than the base station. (Otsuka et al., column 3, lines 6-8). A person of ordinary skill in the art would be steered away from relying upon Otsuka et al., because Otsuka et al. discusses the power of the mobile stations and not "vary the number of

carriers in the capacity layer, to...dynamically vary a total capacity of the cell", as recited in claim 1.

Furthermore, the Office Action took the position that the above-quoted feature is disclosed in Otsuka et al., because Otsuka et al. discusses that as the number of mobile stations increase the number of carriers increase. (Office Action, page 4, lines 3-10). However, the Office Action's interpretation of Otsuka et al. has no bearing as to how the total capacity layer of the cell is varied, i.e., by varying the number of carriers in the capacity layer (claim 1, lines 6-8). It is not a surprise that Otsuka et al. does not disclose the above-quote features of claim 1, because Otsuka et al. is not concerned with each carrier having a dynamically variable coverage area (claim 1, line 5) but instead is merely concerned with adjusting the transmission power of the mobile stations.

Applicant also submits that neither Schilling nor Otsuka et al. disclose, either expressly or implicitly, "a cell...having a fixed coverage area..." (claim 1, lines 3-4, emphasis added) and "each carrier in the capacity layer having a dynamically variable coverage area" (claim 1, lines 5-6, emphasis added). This is not surprising, since Schilling discusses that the number of carriers is fixed and Otsuka et al. discusses that the areas are fixed. Therefore, Applicant respectfully submits that Schilling and Otsuka et al. cannot be combined to disclose, either expressly or implicitly, that the coverage area is dynamically varied and the carriers in the capacity layer is dynamically varied.

Accordingly, Applicant respectfully requests that the rejection of independent claim 1 be withdrawn and this claim be allowed for at least the reasons presented above.

Independent claims 10, 19, 25, 27, and 28, which each have their own scope, recite features similar to those recited in claim 1. Accordingly, Applicant respectfully requests that the rejection of independent claims 10, 19, 25, 27, and 28 be withdrawn and these claims be allowed for reasons similar to those discussed above with respect to claim 1.

Dependent claims 2, 5-9, 11, 15-18, 20, 21, 23, and 24 inherit the patentable features of their respective base claims by virtue of their dependency. Therefore, Applicant respectfully requests that the rejection of dependent claims 2, 5-9, 11, 15-18, 20, 21, 23, and 24 be withdrawn and these claims be allowed for at leas the same and/or similar reasons as their respective base claims, and for the specific limitations recited therein.

For example, claim 2 recites that "a power level of a carrier in a downlink of the coverage layer defines the coverage area of said cell" and claim 5 recites that "a power level of at least one carrier of said at least one carrier in the capacity layer is variable." Because Schilling discusses that the number of carriers is fixed and Otsuka et al. discusses that the areas are fixed, Applicant respectfully submits that the combination of Otsuka et al. and Schilling fails to disclose, either expressly or implicitly, at least, the above-quoted features of claims 2 and 5.

Claim 22 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Schilling and Otsuka et al. in view of Lawrence (U.S. Patent Publication No. 2004/0203837). Particularly, the Office Action asserted that the combination of Schilling, Otsuka and Lawrence disclosed all of the elements of claim 22. However, this rejection is respectfully traversed for at least the following reasons.

Schilling and Otsuka et al. are discussed above. Lawrence discusses opportunistic channel assignments. Specifically, Lawrence discusses that variable power levels allows cells to be sized according to the subscriber density and demand within a particular region. (Lawrence, paragraph [0002]). In other words, Lawrence discusses the behavior of CDMA/UMTS cells, which shrink in size when the traffic grows within it due to the self interference of CDMA/UMTS technology.

However, nothing was found or cited in Lawrence that cure the deficiencies of Schilling and Otsuka et al. For example, Lawrence fails to disclose, either expressly or implicitly, at least

> at least one transmitter configured to transmit a first carrier at a predetermined power level thereby defining a fixed coverage area of a cell of a communications system, and further configured to transmit a variable number of further carriers thereby defining, at least in part, a dynamically variable total capacity of the cell, wherein each of the further carriers has a dynamically variable coverage area

as recited in claim 19.

Claim 22 depends upon claim 19 and, therefore, inherits the patentable features of thereof. Accordingly, Applicant respectfully requests that the rejection of dependent

claim 22 be withdrawn and this claim be allowed for at leas the same and/or similar reasons as base claim 19, and for the specific limitations recited therein.

Claims 1, 10, 19, 25, 27, and 28 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Schilling in view of Mujtaba (U.S. Patent No. 6,950,678). Particularly, the Office Action asserted that the combination of Schilling and Mujtaba disclosed all of the elements of claims 1, 10, 19, 25, 27, and 28. However, this rejection is respectfully traversed for at least the following reasons.

Schilling is discussed above. Mujtaba discusses a control technique for a communication system. Specifically, Mujtaba discusses inserting microcells into macro cells at hotspot. (Mujtaba, Abstract). The microcells are co-located with the macro cells. The microcells use steerable antenna beams to cover hot spots, which can vary with time. Mujtaba discusses that filter tap weights may be adjusted to point the beam to any desired location in the macro cell so the microcell can track the hot spot. (Mujtaba, Fig. 5a).

However, nothing was found in Mujtaba to cure the above-mentioned deficiencies of Schilling. For example, Mujtaba fails to disclose, either expressly or implicitly, at least

> a defining unit configured to define a capacity layer for a cell of a communications system, the cell comprising a coverage layer having a fixed coverage area provided by at least one carrier, the capacity layer comprising at least one carrier, each carrier in the capacity layer having a dynamically variable coverage area, wherein the defining unit is configured to vary the number of carriers in the capacity layer, to thereby dynamically vary a total capacity of the cell

as recited in claim 1. Because Mujtaba fails to disclose, either expressly or implicitly, at least, the above-quoted features of claim 1, Applicant respectfully submits that the entire combination of Schilling and Mujtaba is deficient. Therefore, Applicant respectfully requests that the rejection of independent claim 1 be withdrawn and this claim be allowed for at least the reasons presented above.

Independent claims 10, 19, 25, 27, and 28, which each have their own scope, recite features similar to those recited in claim 1. Accordingly, Applicant respectfully requests that the rejection of independent claims 10, 19, 25, 27, and 28 be withdrawn and these claims be allowed for reasons similar to those discussed above with respect to claim 1.

Conclusion

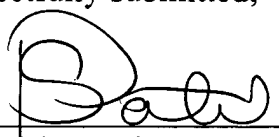
For at least the reasons discussed above, Applicant respectfully submits that none of the cited references, whether considered alone or in combination, disclose, either expressly, implicitly or inherently, all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 1, 2, 5-11, 14-25, 27, and 28 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by

telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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